

$\frac{d}{dt} \left(\int_{\Omega} u^2 dx \right) = -2 \int_{\Omega} u \Delta u dx = 0$

9 *varying throttle valve position of the throttle valve with*
10 *valve timing of the intake means held to provide a valve opening*
11 *duration in the neighborhood of the minimum valve opening*
12 *duration.*

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1 4. The method as claimed in claim 1, further comprising:
2 determining a first operation variable indicative of a target
3 intake air;
4 determining a second operation variable indicative of a
5 target valve timing based on said first operation variable;
6 wherein the step of providing said response adjustment
7 comprises:
8 processing said second operation variable to cause said
9 response adjustment.

1 5. A system for controlling intake air of an internal
2 combustion engine, the engine having at least one combustion
3 chamber provided with intake means together with an intake
4 manifold provided with a throttle valve, wherein the opening and
5 closure timings of the intake means are adjustable entirely
6 independently from the crankshaft position to control the
7 amount of intake air supplied to the combustion chamber, the
8 method comprising:
9 a control for a response adjustment to variable valve
10 timing control of the intake means for unthrottled intake air
11 control.

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1 6. A system for controlling intake air of an internal
2 combustion engine, the engine having at least one combustion
3 chamber, the system comprising:
4 at least one intake valve provided for the combustion
5 chamber;
6 an electromagnetic driver operatively connected to each
7 intake valve for opening said intake valve;
8 an intake manifold with a throttle valve communicating
9 with each intake valve; and
10 sensors providing operation variables indicative of
11 operator torque request command and engine speed;

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~~a control unit receiving said operation variables to determine a first operation parameter indicative of target intake air based on said operator torque request command and said engine speed,~~

~~said control unit being operative to make a selection based on said first operation parameter indicative of target intake air between a first operation range for unthrottled intake air control and a second operation range for throttled intake air control, said first and second operation range being separated from each other by a threshold value of target intake air at each of varying values of engine speed, said threshold value increases as engine speed increases,~~

said control unit being operative to vary, with valve opening timing held in the neighborhood of the top dead center, valve closure timing of said intake valve with said throttle valve held in the neighborhood of the wide open throttle position to perform throttled intake air control upon selection of said first operation range, and vary throttle valve position of said throttle valve with valve timing of said intake valve held to provide a valve opening duration in the neighborhood of the minimum valve opening duration that is variable with varying engine speed,

said control unit being operative to determine a second operation parameter indicative of a target valve closure timing of said intake valve based on said target intake air,

~~said control unit being operative to provide a response adjustment to said second operation parameter indicative of said target closure timing to give a processed second operation parameter, and~~

~~said control unit being operative to control said electromagnetic driver to cause said intake valve to close at valve closure timing indicated by said processed second operation parameter.~~

[illegible]

17 *varying the valve closure timing of the intake means to*
18 *close the intake means at a valve closure timing indicated by*
19 *said processed second operation variable.*

12 *instructions for determining a second operation parameter*
13 *indicative of a preliminary valve closure timing for unthrottled*

The first step in the process of the
 development of the new system is the
 identification of the requirements of the
 system. This is done by the system
 analyst, who is responsible for the
 analysis of the requirements and the
 design of the system. The system
 analyst is also responsible for the
 implementation of the system and the
 evaluation of the results. The system
 analyst is a key person in the
 development of the new system.

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1. The first step is to identify the key components of the system. This involves understanding the hardware, software, and data involved.